LEGEND:

FHRA PROPERTY BOUNDARY

0 0.5 Miles

GRAPHIC SCALE

Note:
Image provided courtesy of Pictometry International 2012

FLINT HILLS RESOURCES ALASKA, LLC
NORTH POLE REFINERY, NORTH POLE, ALASKA

**FIRST QUARTER 2013**
**GROUNDWATER MONITORING REPORT**

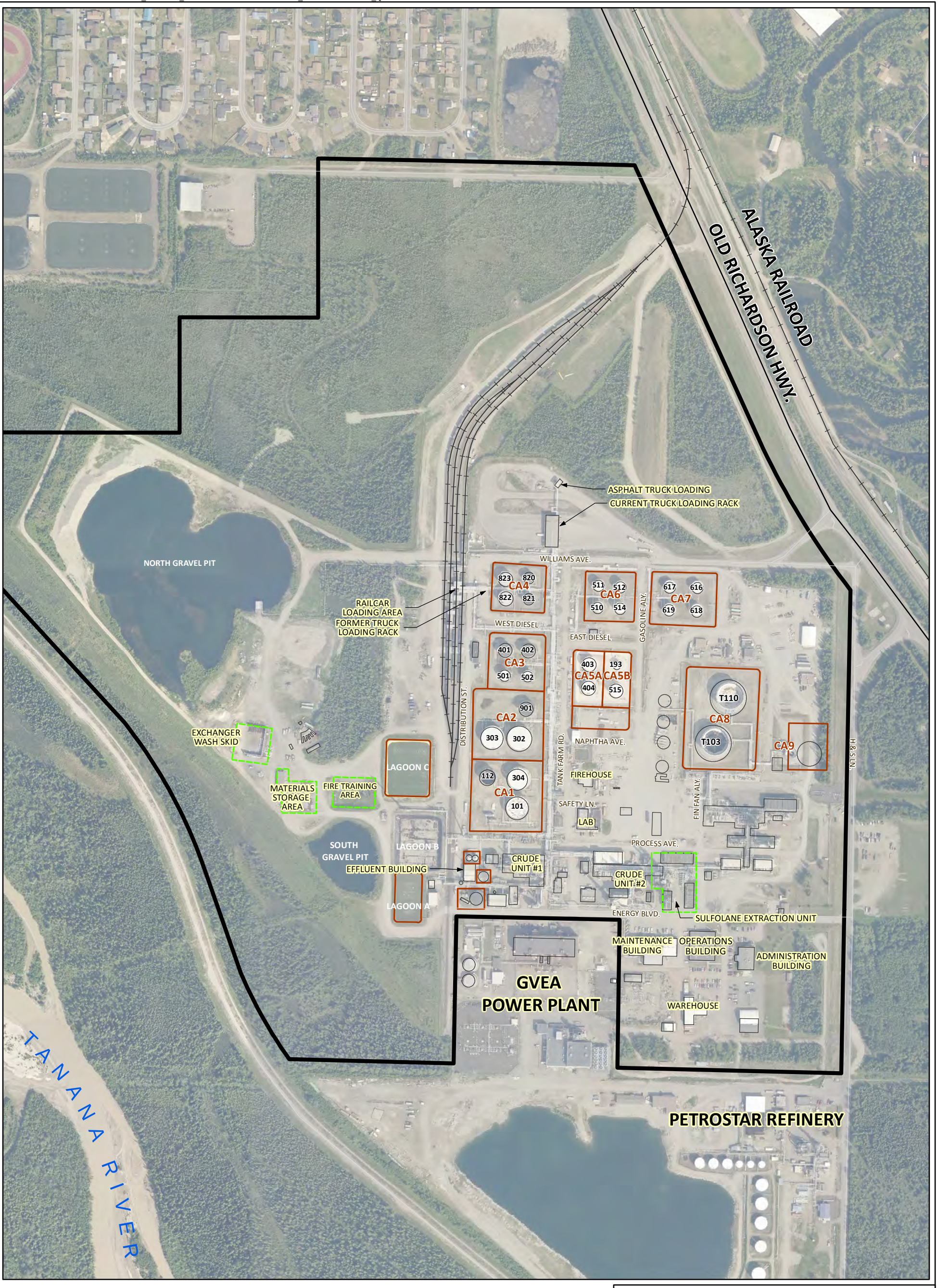
## SITE LOCATION

ARCADIS

FIGURE
**2-1**

CITY: HIGHLANDS RANCH, CO DIV/GROUP: ENV/IM DB: BGriffith LD: G FRANCE
Path: W:\ArcGisData\GISPROJECTS_ENV\FHR_AK\NorthPoleRefinery\GW_Monitoring\2013_Q1\MXD\Fig 2-1 SiteLocation.mxd Date: 5/31/2013 Time: 12:07:56 PM

CITY: HIGHLANDS RANCH, CO DIV/GROUP: ENV/IM DB: BGRIFFITH LD: G FRANCE
PATH: W:\ARCGISDATA\GISPROJECTS_ENV\FHR_AK\NORTHPOLEREFINERY\GW_MONITORING\2013_Q1\MXD\FIG 2-2 CURRENTSITEFEATURES.MXD DATE: 5/31/2013 TIME: 12:10:31 PM




**Legend**

- Bermed Containment Areas (CA)
- Approximate Area
- FHRA Property Boundary

**Notes:**

GVEA: Golden Valley Electrical Authority
Image provided courtesy of Pictometry International 2012

0 400 800
SCALE IN FEET

FLINT HILLS RESOURCES ALASKA, LLC
NORTH POLE REFINERY, NORTH POLE, ALASKA

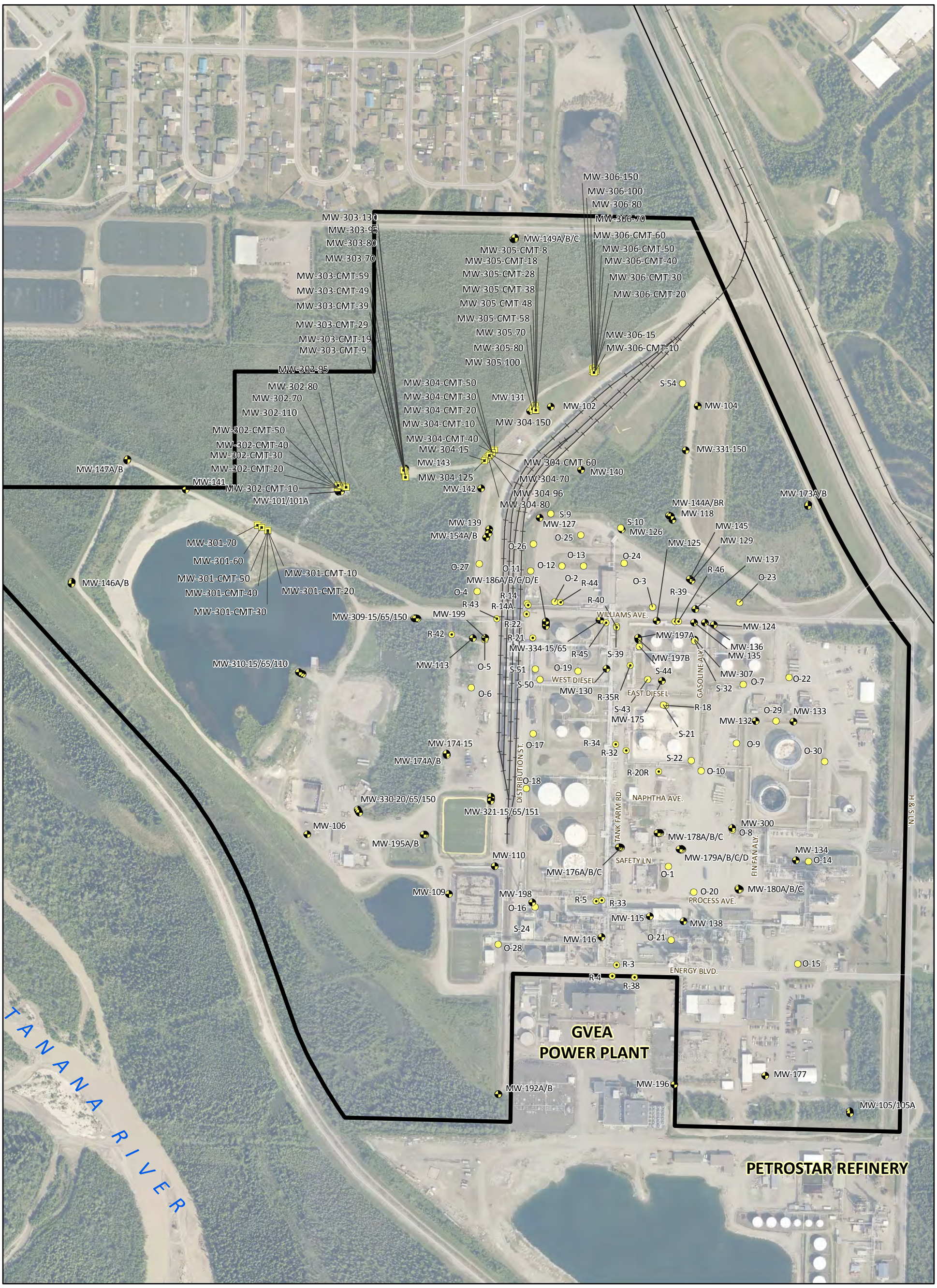
**FIRST QUARTER 2013**
**GROUNDWATER MONITORING REPORT**

## SITE FEATURES

ARCADIS

FIGURE
**2-2**

CITY: HIGHLANDS RANCH, CO DIV/GROUP: ENV/IM DB: BGRIFFITH LD: G FRANCE
PATH: W:\ARCGISDATA\GISPROJECTS_ENV\FHR_AK\NORTHPOLEREFINERY\GW_MONITORING\2013_Q1\MXD\FIG 2-3 SITEPLAN_ONSITE.MXD DATE: 5/15/2013 TIME: 1:44:02 PM




**Legend**

- Monitoring Well
- Observation Well
- Vertical Profile Transect Well
- Recovery Well
- FHRA Property Boundary

**Notes:**

GVEA: Golden Valley Electrical Authority
Image provided courtesy of Pictometry International 2012

0 400 800
SCALE IN FEET

FLINT HILLS RESOURCES ALASKA, LLC
NORTH POLE REFINERY, NORTH POLE, ALASKA

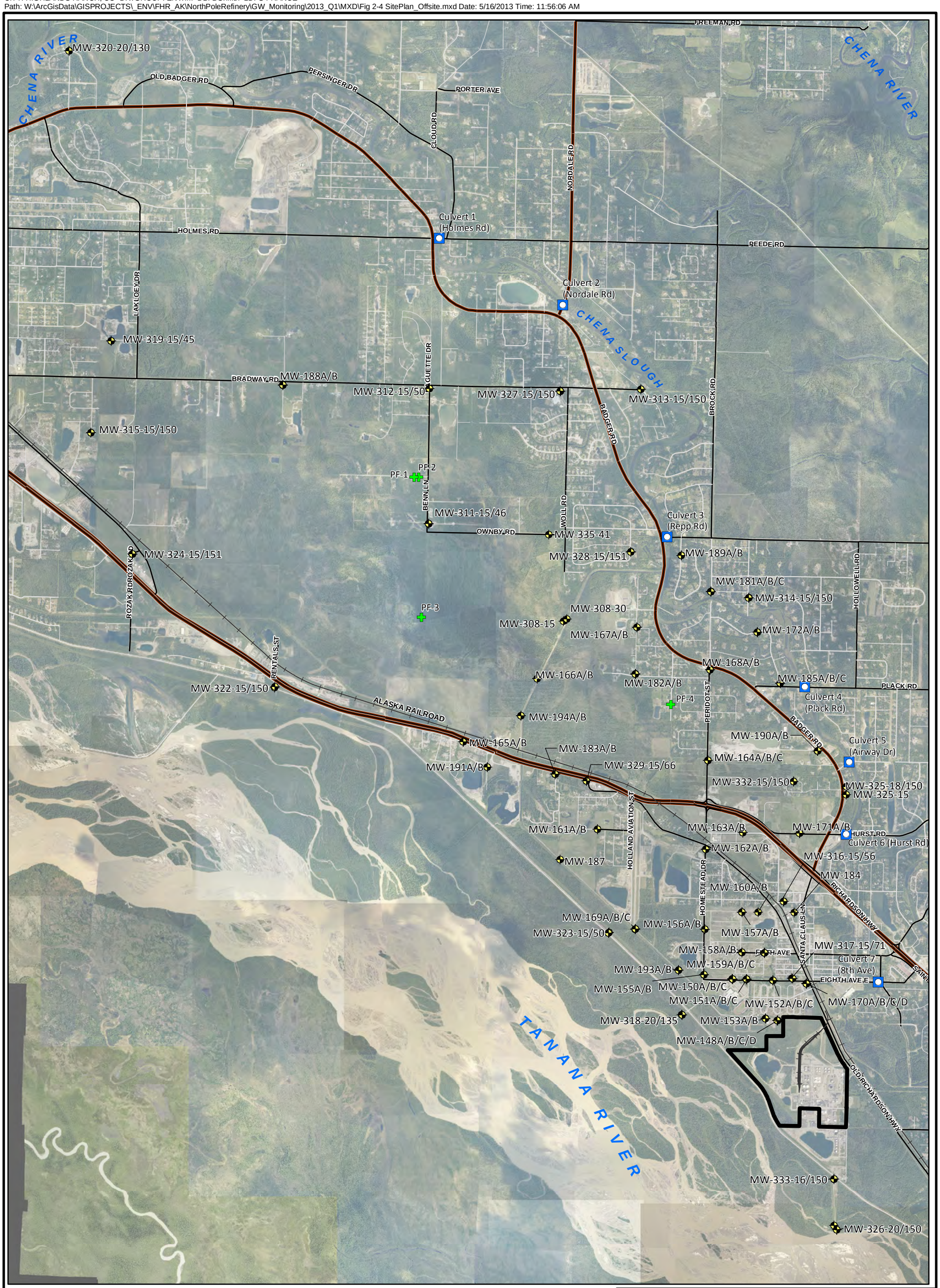
**FIRST QUARTER 2013**
**GROUNDWATER MONITORING REPORT**

**SITE PLAN - ONSITE**

ARCADIS

FIGURE
**2-3**

CITY: HIGHLANDS RANCH, CO DIV/GROUP: ENV/IM DB: BGriffith LD: G FRANCE
Path: W:\ArcGisData\GISPROJECTS_ENV\FHR_AK\NorthPoleRefinery\GW_Monitoring\2013_Q1\MXD\Fig 2-4 SitePlan_Offsite.mxd Date: 5/16/2013 Time: 11:56:06 AM




**Legend:**

- Monitoring Well
- Permafrost Boring
- Culvert
- FHRA Property Boundary
- Highway
- Major Road
- Local Road
- Rail Line

**Note:**

Image provided courtesy of Pictometry International 2012

0 3,000 6,000 Feet
GRAPHIC SCALE

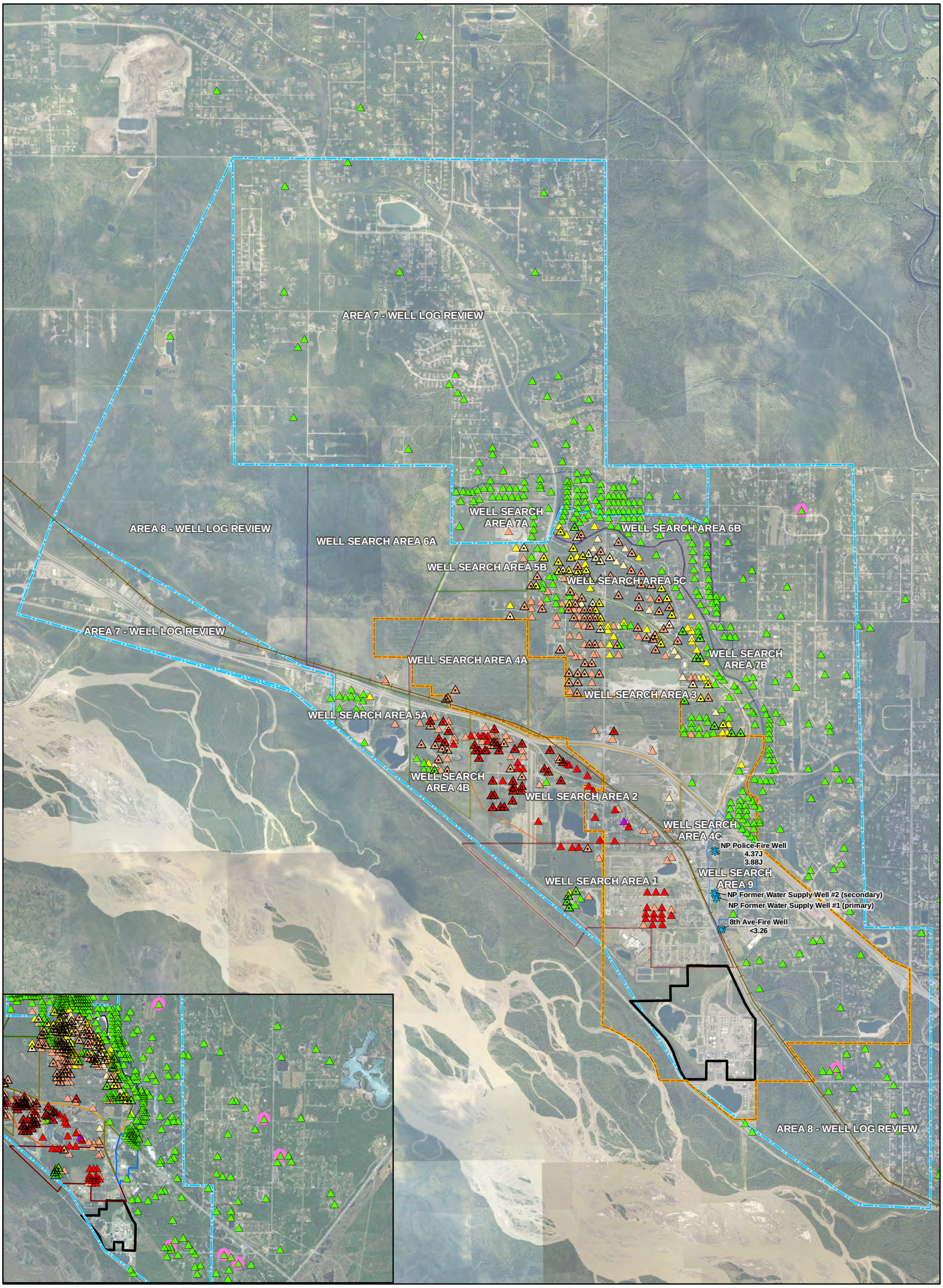
FLINT HILLS RESOURCES ALASKA, LLC
NORTH POLE REFINERY, NORTH POLE, ALASKA
**FIRST QUARTER 2013**
**GROUNDWATER MONITORING REPORT**

## SITE PLAN - OFFSITE

ARCADIS

FIGURE
**2-4**

CITY: HIGHLANDS RANCH, CO DIV/GROUP: ENV/IM DB: BGRIFFITH LD: G FRANCE
PATH: W:\ARCGISDATA\GISPROJECTS_ENV\FHR_AK\NORTHPOLEREFINERY\GW_MONITORING\2013_Q1\MXD\FIG 3-1 RESIDENTIAL_SULFOLANE.MXD DATE: 5/20/2013 TIME: 7:11:19 AM




**LEGEND:**

**Private Well Sulfolane Results**

- Not Detected
- 3.2 µg/L - 10 µg/L (J-flagged)
- 10µg/L - 14 µg/L
- 14µg/L - 100 µg/L
- 100µg/L - 500 µg/L
- Greater than 500 µg/L

- Point-of-entry treatment system sample collected
- Initial sulfolane samples collected during the reporting period
- Municipal Wells
- North Pole City Boundary
- FHRA Property Boundary
- Well Log Search Areas

0 3,000 6,000
SCALE IN FEET

**Notes:**
Sulfolane dataset displays the most recent sample collected
Sample results span the time period between Fourth Quarter 2009 and First Quarter 2013
Image provided courtesy of Pictometry International 2012

FLINT HILLS RESOURCES ALASKA, LLC
NORTH POLE REFINERY, NORTH POLE, ALASKA
**FIRST QUARTER 2013**
**GROUNDWATER MONITORING REPORT**

## PRIVATE WELL SEARCH AREAS AND SULFOLANE RESULTS

ARCADIS

FIGURE
**3-1**